Erratum: Singlet-Triplet Dispersion Reveals Additional Frustration in the Triangular-Lattice Dimer Compound $Ba_3Mn_2O_8$ [Phys. Rev. Lett. 100, 237201 (2008)]

M. B. Stone, M. D. Lumsden, S. Chang, E. C. Samulon, C. D. Batista, and I. R. Fisher

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The sign of two exchange constants, J_1 and J_4, in the dispersion we presented in [1] which describes the excitations in $Ba_3Mn_2O_8$ was defined incorrectly. The Fourier sum of Eq. (3) of Ref. [1] should be

$$\mathcal{J}(\mathbf{Q}) = -J_1\omega_1 + 2(J_2 - J_3)\omega_2 - J_4\omega_4. \quad (1)$$

The expressions for ω_1, ω_2, and ω_4 in the original manuscript are correct. The sign of the quantities in the Fourier sum is corrected in the equation above. The resulting exchange constants are therefore $J_0 = 1.642(3)$, $J_1 = 0.118(2)$, $(J_2 - J_3) = 0.1136(7)$, and $J_4 = 0.037(2)$ meV. J_1 and J_4 were previously reported as being negative. The resulting dispersion, $\hbar\omega(\mathbf{Q})$, of the magnetic excitations does not change due to this error. The only consequence of this change is that the interlayer exchange interactions are in fact antiferromagnetic for $Ba_3Mn_2O_8$. Our other conclusions and results remain unchanged.

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[1] M. B. Stone *et al.*, Phys. Rev. Lett. **100**, 237201 (2008).

